

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the subject application. The Office Action of February 25, 2004 has been received and contents carefully reviewed.

By this Amendment, Applicants amend claims 7, 20 and 33. Accordingly, claims 1-34 are currently pending in the present application. Reexamination and reconsideration of the application are respectfully requested.

In the Office Action, the Examiner objected to claim 33 because of informalities. Applicants respectfully submit that the objection is now believed to be moot in view of the claim amendments.

In addition, the Examiner rejected claims 1-3 under 35 U.S.C. § 103(a) as being unpatentable over Applicants' Related Art (ARA) in view of Fujii et al. (U.S. Patent No. 5,757,450); rejected claims 4-5 under 35 U.S.C. § 103(a) as being unpatentable over ARA in view of Hayakawa et al. (U.S. Patent No. 6,172,732); rejected claim 6 under 35 U.S.C. § 103(a) as being unpatentable over ARA in view of Hayakawa et al., and further in view of Fujii et al.; rejected claims 7, 13 and 15-18 under 35 U.S.C. § 103(a) as being unpatentable over ARA in view of Hayakawa et al., and further in view of Fujii et al.; rejected claims 8-9 under 35 U.S.C. § 103(a) as being unpatentable over ARA in view of Hayakawa et al., and further in view of Fujii et al. and Murade (U.S. Patent No. 6,569,717); rejected claims 10-11 under 35 U.S.C. § 103(a) as being unpatentable over ARA in view of Hayakawa et al., and further in view of Fujii et al. and Ha (U.S. Patent No. 6,493,047); claims 12, 14 and 19 under 35 U.S.C. § 103(a) as being unpatentable over ARA in view of Hayakawa et al., and further in view of Fujii et al. and Moon (U.S. Patent No. 6,310,666); rejected claims 20 and 24 under 35 U.S.C. § 103(a) as being unpatentable over ARA in view of Hayakawa et al., and further in view of Fujii et al.; rejected claims 20-22 under 35 U.S.C. § 103(a) as being unpatentable over ARA in view of Hayakawa et al., and further in view of Fujii et al. and Ha; rejected claim 23 under 35 U.S.C. § 103(a) as being unpatentable over ARA in view of Hayakawa et al., and further in view of Fujii et al. and Kwasnick et al. (U.S. Patent No. 6,465,824); rejected claims 25, 27, 29, 31 and 33 under 35 U.S.C. § 103(a) as being unpatentable over Moon in view of Fujii et al.; claims 26, 28, 30, 32 and 34 under 35 U.S.C. § 103(a) as being unpatentable over Moon in view of Fujii et al. and

Kwasnick et al. Applicants respectfully traverse these rejections.

The rejection of claims 1-3 under 35 U.S.C. § 103(a) as being unpatentable over ARA in view of Fujii et al. is respectfully traversed and reconsideration is requested. Claim 1 is allowable over the cited references in that claim 1 recites a combination of elements including, for example, “a plurality of interconnection lines on the substrate, the interconnection lines are wider at a center portion of the interconnection line part than at an outer portion of the interconnection line part.” None of the cited references, singly or in combination, teaches or suggests at least this feature of the claimed invention. Accordingly, Applicants respectfully submit that claim 1 and claims 2-3, which depend therefrom, are allowable over the cited references.

In the Office Action on page 3, the Examiner states, “However, Fujii fairly teaches that the interconnection lines (inclined linear wiring, (figure 1, (42-1 – 42-8)) are wider at a center portion of the interconnection line part (center line, (figures 1-5, (44) that at an outer portion (inclined linear wiring, (figures 1-5, (42-8)) of the interconnection line part....” Applicants respectfully disagree. Fig. 2 in Fujii et al. discloses that w2 (the width of 42-2) is greater than w1 (the width of 42-1), and that 42-1 is closer to the center line 44 than 42-2. Accordingly, Applicants respectfully submit that Fujii et al. actually teaches away from the teachings of the present application.

The rejection of claims 4-5 under 35 U.S.C. § 103(a) as being unpatentable over ARA in view of Hayakawa et al. is respectfully traversed and reconsideration is requested. Claim 4 is allowable over the cited references in that claim 4 recites a combination of elements including, for example, “a plurality of supplementary conductive patterns between the interconnection lines and connected with respective ones of interconnection lines.” None of the cited references, singly or in combination, teaches or suggests at least this feature of the claimed invention. Accordingly, Applicants respectfully submit that claim 4 and claim 5, which depends therefrom, are allowable over the cited references.

In the Office Action on page 4, the Examiner states, “However, Hayakawa teaches a plurality of supplementary conductive patterns (oblique straight wiring conductors (figure 1, (45-1 to 45-10))....” Applicants respectfully disagree. In the present application, “supplementary metal patterns 54 are formed between the interconnection lines 52 to be electrically connected to

the interconnection lines.” See Paragraph [0066] of the present application. In other words, the supplementary metal pattern is a separate element different from the interconnection lines. In contrast, the oblique straight wiring conductors (45-1 to 45-10) are part of interconnection lines electrically connecting the terminal electrodes (41-1 to 41-10) with the display electrodes (46-1 to 41-10). See Hayakawa et al. Col. 6, lines 19-45. Accordingly, Applicants respectfully submit that Hayakawa et al. fails to teach or suggest the aforementioned feature recited in claim 4.

The rejection of claim 6 under 35 U.S.C. § 103(a) as being unpatentable over ARA in view of Hayakawa et al., and further in view of Fujii et al. is respectfully traversed and reconsideration is requested. For similar reasons discussed above with respect to claim 1, claim 6 is allowable over the cited references.

The rejection of claims 7, 13 and 15-18 under 35 U.S.C. § 103(a) as being unpatentable over ARA in view of Hayakawa et al., and further in view of Fujii et al. is respectfully traversed and reconsideration is requested. Claim 7 is allowable over the cited references in that claim 7 recites a combination of elements including, for example, “a conductive layer on the substrate, the conductive layer being wider at a center portion of the interconnection line part than at an outer portion of the interconnection line part and the conductive layer being electrically connected to a voltage line...” None of the cited references, singly or in combination, teaches or suggests at least this feature of the claimed invention. Accordingly, Applicants respectfully submit that claim 7 and claims 13 and 15-18, which depends therefrom, are allowable over the cited references.

The rejection of claims 8-9 under 35 U.S.C. § 103(a) as being unpatentable over ARA in view of Hayakawa et al., and further in view of Fujii et al. and Murade is respectfully traversed and reconsideration is requested. Applicants respectfully submit that because Murade fails to cure the deficiencies of Hayakawa et al. and Fujii et al. as discussed with respect to claim 7, claims 8-9 are allowable over the cited references.

The rejection of claims 10-11 under 35 U.S.C. § 103(a) as being unpatentable over ARA in view of Hayakawa et al., and further in view of Fujii et al. and Ha is respectfully traversed and reconsideration is requested. Applicants respectfully submit that because Ha fails to cure the deficiencies of Hayakawa et al. and Fujii et al. as discussed with respect to claim 7, claims 10-11 are allowable over the cited references.

The rejection of claims 12, 14 and 19 under 35 U.S.C. § 103(a) as being unpatentable over ARA in view of Hayakawa et al., and further in view of Fujii et al. and Moon is respectfully traversed and reconsideration is requested. Applicants respectfully submit that because Moon fails to cure the deficiencies of Hayakawa et al. and Fujii et al. as discussed with respect to claim 7, claims 12, 14 and 19 are allowable over the cited references.

The rejection of claims 20 and 24 under 35 U.S.C. § 103(a) as being unpatentable over ARA in view of Hayakawa et al., and further in view of Fujii et al. is respectfully traversed and reconsideration is requested. Claim 20 is allowable over the cited references in that claim 20 recites a combination of elements including, for example, “a conductive layer on the insulating film, the conductive layer having a larger area at a center portion of the interconnection line part than at an outer portion of the interconnection line part.” None of the cited references, singly or in combination, teaches or suggests at least this feature of the claimed invention. Accordingly, Applicants respectfully submits that claim 20 and claim 24, which depends therefrom, are allowable over the cited references.

The rejection of claims 20-22 under 35 U.S.C. § 103(a) as being unpatentable over ARA in view of Hayakawa et al., and further in view of Fujii et al. and Ha is respectfully traversed and reconsideration is requested. Applicants respectfully submit that because Ha fails to cure the deficiencies of Hayakawa et al. and Fujii et al. as discussed with respect to claim 20, claims 20-22 are allowable over the cited references.

The rejection of claim 23 under 35 U.S.C. § 103(a) as being unpatentable over ARA in view of Hayakawa et al., and further in view of Fujii et al. and Kwasnick et al. is respectfully traversed and reconsideration is requested. Applicants respectfully submit that because Kwasnick et al. fails to cure the deficiencies of Hayakawa et al. and Fujii et al. as discussed with respect to claim 20, claim 23 is allowable over the cited references.

The rejection of claims 25, 27, 29, 31 and 33 under 35 U.S.C. § 103(a) as being unpatentable over Moon in view of Fujii et al. Claim 25 is allowable over the cited references in that claim 25 recites a combination of elements including, for example, “forming a plurality of data lines and data interconnection lines, the data lines connected to the source and drain regions and formed substantially perpendicular to the gate lines, so that the data interconnection line part has a wider area in a center portion of the data interconnection line part than in an outer portion

of the data interconnection line part and a capacitance of the data interconnection lines with the second active layer is gradually increased towards the center portion from the outer portion.” None of the cited references, singly or in combination, teaches or suggests at least this feature of the claimed invention. Accordingly, Applicants respectfully submits that claim 25 is allowable over the cited references.

Claim 27 is allowable over the cited references in that claim 27 recites a combination of elements including, for example, “forming a plurality of gate lines having gate electrodes in the region where the TFTs are formed and simultaneously forming a gate metal pattern layer having a wider area in a center portion of the data interconnection line part than in an outer portion of the data interconnection line part...” None of the cited references, singly or in combination, teaches or suggests at least this feature of the claimed invention. Accordingly, Applicants respectfully submits that claim 27 is allowable over the cited references.

Claim 29 is allowable over the cited references in that claim 29 recites a combination of elements including, for example, “forming a plurality of gate lines on the gate insulating film at the cell array part and forming a gate metal pattern layer on the gate insulating film at the data interconnection line part, so that a gate electrode is formed above the active layer, and so that the gate metal pattern is wider at a center portion of the data interconnection line part than an outer portion of the data interconnection line part...” None of the cited references, singly or in combination, teaches or suggests at least this feature of the claimed invention. Accordingly, Applicants respectfully submits that claim 29 is allowable over the cited references.

Claim 31 is allowable over the cited references in that claim 31 recites a combination of elements including, for example, “forming a plurality of data lines substantially perpendicular to the gate lines to connect source and drain electrodes to the impurity region through the contact hole, and simultaneously forming a data metal pattern layer to overlap the gate interconnection lines, so that the data metal pattern layer is wider at a center portion of the gate interconnection line part than at an outer portion of the gate interconnection line part.” None of the cited references, singly or in combination, teaches or suggests at least this feature of the claimed invention. Accordingly, Applicants respectfully submits that claim 31 is allowable over the cited references.

Claim 33 is allowable over the cited references in that claim 33 recites a combination of

elements including, for example, “forming a plurality of data lines substantially perpendicular to the gate lines to form source and drain electrodes on both sides of the active layer, and simultaneously forming a data metal pattern layer to overlap the gate interconnection lines, so that the data metal pattern layer is wider at a center portion of the gate interconnection line part than at an outer portion of the gate interconnection line part.” None of the cited references, singly or in combination, teaches or suggests at least this feature of the claimed invention. Accordingly, Applicants respectfully submits that claim 33 is allowable over the cited references.

The rejection of claims 26, 28, 30, 32 and 34 under 35 U.S.C. § 103(a) as being unpatentable over Moon in view of Fujii et al. and Kwasnick et al. is respectfully traversed and reconsideration is requested. Applicants respectfully submit that because Kwasnick et al. fails to cure the deficiencies of Moon and Fujii et al. as discussed with respect to claims 25, 27, 29, 31 and 33, claims 26, 28, 30, 32 and 34 are allowable over the cited references.

Applicants believe the foregoing amendments place the application in condition for allowance and early, favorable action is respectfully solicited. If the Examiner deems that a telephone conference would further the prosecution of this application, the Examiner is invited to call the undersigned attorney at the telephone number (202) 496 - 7500. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the

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